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RUTGERS COLLEGE

AND THE

STATE UNIVERSITY OF NEW JERSEY

Rutgers Scientific School

Extension Courses For Teachers

Announcement
1919-1920



PUBLISHED BY

STATE UNIVERSITY OF NEW JERSEY
NEW BRUNSWICK, NEW JERSEY

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Rutgers College
AND THE
State University of New Jersey

EXTENSION COURSES IN
EDUCATION
ANNOUNCEMENT

New Brunswick
1919-1920

INTRODUCTION

The courses outlined below are courses in the theory and practice of education which will be offered during the academic year 1919-1920. These courses may be counted for credit toward a college degree by all persons who have satisfied the prerequisites for the degree. No examinations are required for admission to any of the courses. Students are enrolled who, in the judgment of the instructor, are qualified to pursue them.

Information in regard to the courses, time of meeting and general regulations may be obtained by addressing CHARLES S. CROW, SECRETARY OF EXTENSION COURSES, RUTGERS COLLEGE, NEW BRUNSWICK, NEW JERSEY.

COURSES OF INSTRUCTION

***Methods and Measurements in Education e92.** This course involves a study of the standard tests and scales that have been used in important school surveys—how they are derived, how they are used in testing, how papers are scored, and how results are tabulated and interpreted. It is the purpose to plan and carry out a local survey in which special attention will be given to individual differences, class differences and grade differences in the various subjects as they are related to problems of teaching, supervision and administration. For teachers, principals and supervisors.

Credit: Undergraduate or graduate, 30 hours (2 points). Classes meet thru the semester once a week after school for a two-hour period. The course may be continued thru the second semester, making it a sixty-hour (4 point) course. Equivalent to Education 41. Fee \$7.50.

Professor Crow.

*This course was given during the school year 1918-1919 at Atlantic City, Camden, Bayonne, Elizabeth, Orange, Red Bank, Summit and Westfield.

The Project Method of Teaching e91. Through the cooperation of the superintendent and principals this course will undertake to present the project method by means of demonstration lessons taught by local teachers. These lessons will serve as a basis for the discussion of the principles of teaching underlying the project method. The course will seek to perfect projects which are now being used and to develop new projects for specific grades and subjects.

Credit: Undergraduate or graduate, 30 hours (2 points). To alternate every other week with either Education e41 or Education e92. Fee \$7.50.

Professor Crow.

Field Work in Administration and Supervision e41. This course is planned for those who took the course in Educational Measurements last year though that work is not prerequisite. Standard tests will be used as a guide to better teaching and supervision in certain selected subjects. Specific problems will be studied under controlled conditions. Standards for course of study, for teaching and for supervision will be applied. A survey of school buildings may be undertaken. The relative emphasis to be given to each phase of the course will be planned with the superintendent before the work begins.

Credit: Undergraduate or graduate, 30 hours (2 points). The plan is to alternate this course with Education e91, each course meeting on a given day every week after school for a two-hour period through the year. Fee \$7.50.

Professor Crow.

Psychology of Learning e33. The course considers the physiological basis of learning, the psychology of habit, practice, memory, fatigue and thinking in their relation to school work. Practical exercises and reports.

Credit I, equivalent to Psychology 33.

Professor Elliott.

10:00-12:00 a. m., Saturday, second half year. Room 11 Van Nest Hall, Rutgers College, New Brunswick.

History of Education—Course A e80. The aim of the course is to trace the historical development of theories and practices in education. Among the important topics considered are: The evo-

lution of the school as a social institution; the school and society; the teacher as a product of society and a factor in society; the course of study; the social forces affecting the course of study and school method. The influence of the great war and industrial expansion upon the development of education and educational institutions will be considered.

10:00-11:00, Room 37 Queen's Building, Rutgers College, New Brunswick. College credit two term hours.

The Teaching of Modern Languages in the High School e163.

This course is intended for teachers of French, Spanish and other modern languages and will deal with the general principles underlying the teaching of modern languages, the organization of such instruction in the secondary schools in the United States, and the methods of instruction in these languages. It will include treatment of the history of the direct method in Europe and the United States, its theory and practice, its special application to various needs and conditions, and its demands upon the teacher. Detailed suggestions will be given as to its application in the treatment of pronunciation, grammar, written work and reading material. The work consists of lectures, discussions and reports upon textbooks and other references.

10:00-12:00, Room 15 Queens Building, Rutgers College, New Brunswick.

Professor Hauch.

Literature for the Grades—Course B e143. This course is concerned primarily with methods of teaching literature in grades seven and eight and in the junior high school. It will include a discussion of the aims in teaching literature, the determination of criteria for the selection of classics, and class study of literary types. Special emphasis will be laid on the oral interpretation of literature. Opportunity will be given for the free interchange of opinion, and the testing of devices in teaching that have proved their worth in the practice of the classroom. Among the selections which will be studied are the following: Selected poems from Tennyson, Wordsworth, Longfellow, and Whittier; Coleridge's *Ancient Mariner*; Homer's *Iliad* and *Odyssey* in one of the standard English translations; Shakespeare's *Julius Cæsar* and *King Lear*.

Credit IV. Also Credit I, 2 hours. Equivalent to English 165.

Professor Whitman. Time and centers to be arranged.

TEAR ALONG THIS LINE

Mail this sheet to the Secretary of Extension Courses as early as possible. Kindly give the names of all persons who are interested in Extension Courses.

Street Address.....

Highest Educational Institution previously attended.....

I desire to enroll in the following courses:

(Write the titles and numbers of the courses selected below)

Please send copy of this bulletin to the following persons:

Address

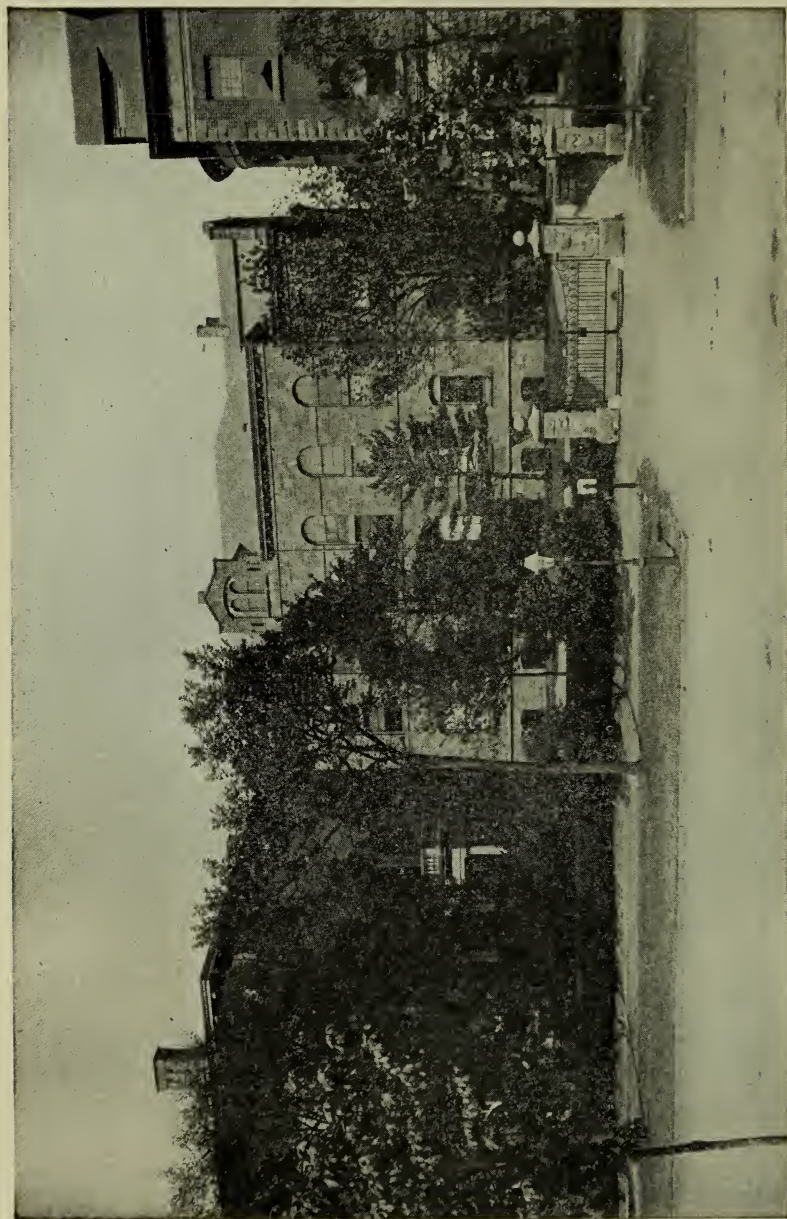
RUTGERS COLLEGE
AND THE
STATE UNIVERSITY OF NEW JERSEY
Rutgers Scientific School

Extension Courses
For Teachers

Announcement
1919-1920



NEW BRUNSWICK
PUBLISHED BY
STATE UNIVERSITY OF NEW JERSEY
JULY 15, 1919



Van Nest

Geological

Winants

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Rutgers College

and the

State University of New Jersey

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Associate Professor of Education

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Assistant Professor of Home Economics	
MELVILLE T. COOK, Ph.D.....	<i>Botany</i>
Professor of Plant Pathology	
FREDERICK F. COUCH, M.E.....	<i>Mathematics</i>
Associate Professor of Mechanical Engineering	
CHARLES S. CROW, A.M.....	<i>Education</i>
Associate Professor of Education	
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Professor of Education	
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ERNEST LITTLE, A.M.....	<i>Chemistry</i>
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MAX A. LURIA, A.M.....	<i>Spanish</i>
Head of Spanish Department, DeWitt Clinton High School, New York	
GEORGE H. MARTIN, M.Sc.....	<i>Botany</i>
Assistant Professor of Botany	
TITUS B. MAXWELL, B.Sc.....	<i>Chemistry</i>
Vander Poel Fellow in Chemistry	

GEORGE L. MUSGRAVE, B.S.....	<i>Agriculture</i>
Assistant Professor of Agriculture	
THURLOW NELSON, PH.D.....	<i>Zoology</i>
Associate Professor of Zoology	
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FRANK RANDALL PRATT, PH.D.....	<i>Physics</i>
Associate Professor of Physics	
WILLIAM N. REGAN, A.M., Sc.D.....	<i>Dairying</i>
Professor of Dairy Husbandry	
LYMAN G. SCHERMERHORN, B.S.....	<i>Agriculture</i>
Assistant Professor of Vegetable Gardening	
H. O. SAMPSON, B.S.....	<i>Agricultural Education</i>
Assistant Professor of Education	
DONALD E. SMITH, PH.D.	<i>History</i>
Department of History, Morris High School, New York City	
EARL THARP, A.M.....	<i>Business</i>
South Side High School, Newark	
CHARLES H. WHITMAN, PH.D.....	<i>English</i>
Professor of English	



Queen's Campus, North

INTRODUCTORY

The courses in extension teaching have been organized as an integral part of the Division of Education. They are planned primarily for persons engaged in teaching and may be counted by such persons for credit toward a college degree. The courses are open also to men and women who are not candidates for a degree and to regular students of the University who are unable to elect parallel courses offered on the regular college program.

As courses in the Division of Education of the University they may be offered for credit toward the appropriate degrees in the various colleges of the State University of New Jersey. Most of the courses may be counted also for credit toward the various State Certificates of New Jersey providing the student has satisfied the prerequisite requirements laid down by the State Board of Examiners.

Time of Meeting of Courses The courses listed in this bulletin are offered in the afternoon and evening of regular school days. Certain of the courses are offered on Saturday morning. So far as possible the schedule of hours as printed in the announcement will be followed but opportunity is offered to change the time of meeting of any course providing such an arrangement is satisfactory to the membership of the course. In every instance courses as announced may be offered in centers other than those named providing ten persons elect to pursue the course. A larger number of courses is offered at New Brunswick than elsewhere and arrangements may be made to take as Extension Courses any of the courses upon the regular university schedule providing the applicant is qualified to enter the course elected and obtains the consent of the instructor.

Registration Students who expect to pursue any of the courses listed in this bulletin should register upon the receipt of the announcement by tearing out the registration blank which constitutes the first page and mailing the same to Charles S. Crow, Secretary of Extension Courses, State University of New Jersey, New Brunswick, New Jersey. All Saturday courses will begin their meetings on September 20, 1919. Other courses will begin during the week September 15-20, unless otherwise announced. Each course unless some other arrangement is specifically indicated consists of thirty meetings; the length of the meeting is indicated in the announcement of the course and is determined by the credit value of the same.

CREDITS

Candidates for the Bachelor's Degree

Students of Rutgers College, the New Jersey College for Women, and other divisions of the University may, with the consent of the proper officer, pursue any of the courses offered and count the credit earned toward the appropriate degrees in Rutgers College and the State University of New Jersey under the conditions governing such credit. Students of other colleges should ascertain from the proper officer the amount of credit which will be allowed for the course chosen.

Credit for the Master's Degree

A number of the courses listed in this bulletin may be pursued by students who are candidates for the master's degree. Such students should confer with Professor W. T. Marvin, Secretary of the Committee on Graduate Degrees, Room 28, Queen's Building, for full particulars.

Other Credits

Students in regular standing in other educational institutions of New Jersey may pursue courses for advanced standing or for the removal of deficiencies. Such students should ascertain from the proper officer of the institution in which they are enrolled the amount of credit which will be allowed for work completed in this manner.

Credit for State Teachers' Certificates

Courses outlined in this bulletin which are a part of the regular college curriculum may be counted for credit toward the various State Teachers' Certificates. In order to receive such credit, however, it is necessary that the student meet all of the prerequisite requirements laid down by the State Board of Examiners. These are fully described in a complete digest of rules governing all certificates which will be sent upon request.

USE OF COLLEGE EQUIPMENT

The equipment in all departments of Rutgers College and the State University of New Jersey is available for use in the extension classes held at New Brunswick. Laboratories of the departments

of science, agriculture and engineering are exceptionally well equipped. Abundant library facilities are afforded. The general library contains ninety-eight thousand volumes, forty thousand pamphlets and receives five hundred periodicals including many magazines which treat the field of education. The Sage Library of the New Brunswick Seminary, adjoining the College Campus, contains fifty-four thousand volumes and twelve thousand pamphlets. It is open to extension students. Such students under appropriate arrangements may use also the Middlesex County Pedagogical Library of twenty-five hundred volumes. The latter library is housed in the Carnegie Library of the City of New Brunswick, a short distance from the Queen's Campus.

APPOINTMENT BUREAU FOR TEACHERS

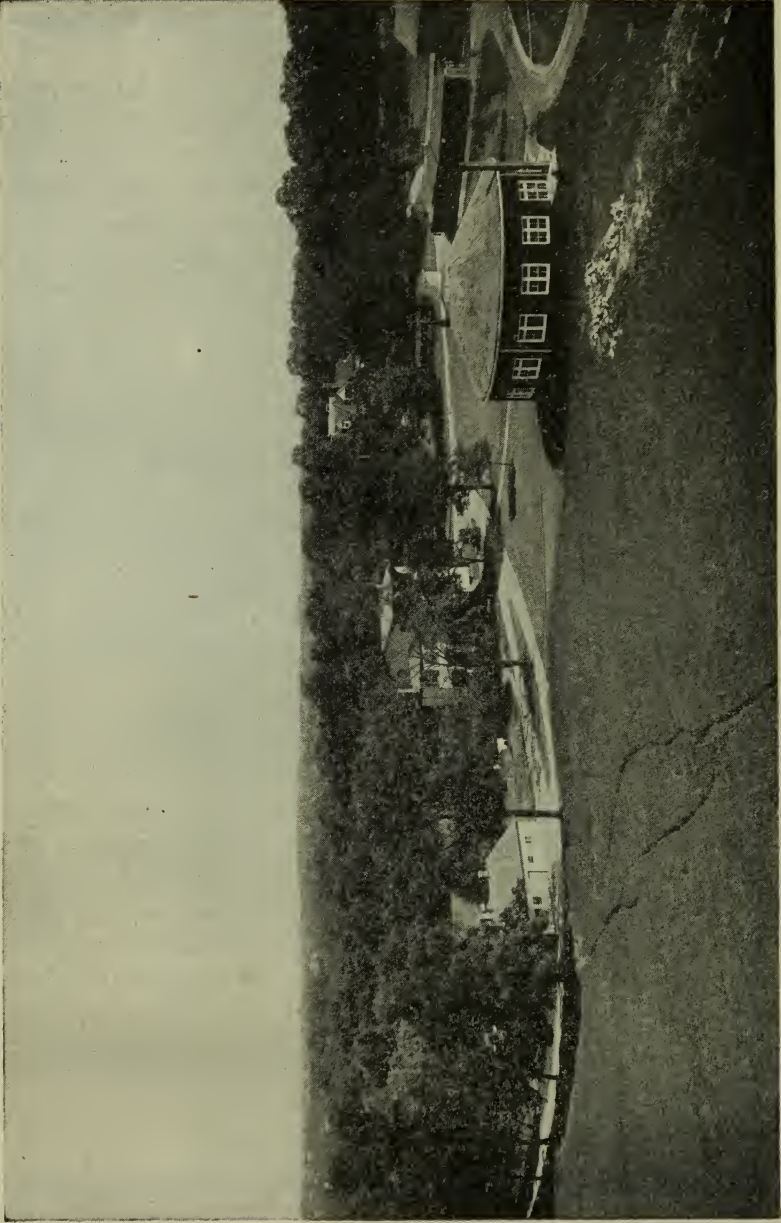
In order to be of service to the students who attend the summer session, to those enrolled in the regular college department of education and to those students who enroll in extension courses, a free appointment office is maintained in the office of the Director. The Appointment Committee desires to have all qualified teachers enroll at the earliest possible date.

ADMISSION

All extension courses are open on equal terms to such men and women as in the judgment of the faculty are qualified to pursue them. No formal examination for entrance to any of the courses is held. Students who wish to count the credit earned toward the appropriate academic degrees or for a State Teachers' Certificate must, as indicated above, satisfy the requirements laid down by the University or by the State Board of Examiners.

FEES

All students who pursue any of the extension courses are required to pay the regular course fee named in the description of the course. No other fees are required. Fees are payable at the time of registration.



The College Farm

ATTENDANCE

Students are required to be regular in their attendance upon courses. If a person expects to receive credit of any kind he may not be absent from more than ten per cent of the recitations.

REGISTRATION BY MAIL

Students are urged to register for the various courses in advance of their opening. All correspondence relating to courses, fees, registration and applications for courses should be addressed to the Secretary.

Prospective students are urged to make their arrangements upon the receipt of this bulletin. For further information address

SECRETARY OF EXTENSION COURSES**STATE UNIVERSITY OF NEW JERSEY****NEW BRUNSWICK, NEW JERSEY**

1883 Gateway

COURSES OF INSTRUCTION**Credits**

- All courses marked I—May be counted toward the appropriate degrees in Rutgers College and the State University of New Jersey
- All courses marked II—May be offered by graduate students for credit toward a Master's Degree
- All courses marked III—May be counted for credit toward the various New Jersey State Certificates

AGRICULTURE**Elementary Agriculture for Teachers e1**

A general introductory course for teachers in elementary schools. The course may be pursued with profit also by teachers who desire a general survey of the field. For the academic year 1919-1920 the topics considered are as follows: Field crops with emphasis on corn, potatoes, alfalfa; common garden vegetables; the propagation and harvesting of the common bush and tree fruits. Training in the selection of products for exhibits, the arranging of contests, the use of score cards, and some practice in comparative judging constitute other topics in the course.

Credit I, III. Professors APP and MUSGRAVE

10:30 a. m.-12:30 p. m., Saturday, New Jersey Hall, New Brunswick.
Fee \$15.00

Poultry Husbandry e2

This course deals with the principal topics in an introductory college course in Poultry Husbandry. The course may be taken also by students who desire credit in agriculture for the Permanent Elementary Certificate. Among the principal topics considered are the following: Types and breeds of poultry; the principles of poultry feeding; location, design and construction of poultry buildings; incubation and brooding; marketing poultry products; sanitation and diseases of poultry. Laboratory periods will be devoted to scoring and judging, caponizing, sticking and dry picking, operation of incubators and brooders. Lectures, demonstrations and laboratory exercises.

Credit I, III. Equivalent to Poultry Husbandry 529. Mr. HANNAS

11:00 a. m.-12:30 p. m., Saturday, Poultry Building, College Farm, New Brunswick. Fee \$15.00

BOTANY**General Botany—Course I e30**

A course in elementary plant morphology, physiology and ecology. Especial attention is given to the needs of school work and the topics selected for study, together with the laboratory exercises, are such as may be utilized in such work. Among the most important topics treated will be germination, environmental factors, pollination, seed distribution, identification of common plants, and plant societies. Lectures and laboratory exercises.

Credit I, III. Equivalent to Botany 601. Professors COOK and MARTIN

11:30 a. m.-1:00 p. m., Saturday, Botanical Laboratory, New Jersey Hall, New Brunswick. Laboratory periods as arranged. Fee \$20.00

General Botany—Course II e33

This course corresponds to a second semester course in General Botany which requires as a prerequisite the ground covered in Botany e30. The evolution of plant forms with training in technique constitute the principal topics of the course.

Credit I, III. Equivalent to Botany 602. Professors COOK and MARTIN

11:30 a. m.-1:00 p. m., Saturday, Botanical Laboratory, New Jersey Hall, New Brunswick. Laboratory periods as arranged. Fee \$20.00

BUSINESS**Methods and Curricula of Commercial Education e40**

This course has been planned to meet the steadily growing demand for well-equipped teachers in secondary schools. It is intended to give the commercial teacher a broad vocational outlook upon his subjects, to acquaint him with the pedagogical principles underlying them, and to discuss special methods in the different subjects included in the curricula. While the course is planned especially for prospective teachers, it should prove of value to those already in the service, who feel the need of the broader knowledge required to keep pace with the higher standards of business, and hence of business teaching. The course is open to both men and women who are graduates of normal schools or high schools.

Credit 1. Mr. EVANS

10:00-11:30 a. m., Saturday, Newark. Fee \$15.00

Secretarial Work e41

Office organization and management, business and social correspondence are emphasized. The course seeks to present useful information concerning the office as the background of the secretary's work, and office equipment as secretarial tools; to systematize practice in the secretarial duties, such as correspondence, indexing, filing, reference work, printing and proof-reading; and to indicate the principles of secretarial ethics and the ideals of secretarial service. Inspection trips and individual investigation are required.

Credit 1. Mr. EVANS

7:30-9:30 p. m., Tuesday and Thursday, Plainfield. Fee \$20.00

Banking and Finance e42

The principal aim of this course is to provide such exercises in banking practice as will qualify the student to take a position in any modern bank and perform the duties understandingly from the beginning. An effort has been made to present those principles and practices of commercial banking that are common to all banks. The Federal Reserve System is fully explained, including its effect on the banking and credit systems of the country. The course presents in a clear, concise manner the general subject of money and banking, so arranged as to make it suitable for use of college students or business men and women.

Credit 1. Mr. LORD

7:30-9:30 p. m., Tuesday and Friday, Plainfield. Fee \$20.00

Bookkeeping I—Preparatory Accounting e40

This course presupposes no knowledge of bookkeeping. The purpose of the course is to give the student a working knowledge of modern bookkeeping practice. Principal topics: Practice in the preparation of original entries, posting, the making of statements and ledger closing.

Credit 1

11:30 a. m.-1:00 p. m., Saturday, New Brunswick. Fee \$15.00

Bookkeeping II—Principles of Accounting e41

The course considers principally accounting. The course includes the carrying through of a complete series of transactions. The plan is to equip the student who completes this course and Bookkeeping I with a knowledge of the fundamental principles of accounting and their application to various types of business.

Credit 1

11:30 a. m.-1:00 p. m., Saturday, New Brunswick. Fee \$15.00

Elementary Stenography (Gregg System) e42

This course is planned to furnish the student with an elementary knowledge of the principles of shorthand and their application.

Credit 1

7:30-9:00 p. m., Monday and Wednesday, New Brunswick and Plainfield.
Fee \$20.00

Advanced Stenography (Gregg and Pitman Systems) e43

The course meets the needs of students who desire advanced instruction in shorthand, and for teachers who desire to obtain additional speed. A large volume of dictation and shorthand reading is provided.

Credit 1

7:30-9:00 p. m., Monday and Wednesday, New Brunswick and Plainfield.
Fee \$20.00

High Speed Stenography, Reporting, and Office Practice (Gregg and Pitman Systems) e51

This course presumes on the part of the student a thorough knowledge of shorthand principles and the ability to write 100 words or more a minute. It aims to prepare for Civil Service examinations, private secretarial work, reporting, law office practice, court reporting practice, etc.

The Office Practice will embrace, among other things, executive office management, principles governing administration, handling of callers, different filing plans, writing of reports, make-up of documents, office routine, etc.

Credit 1. Mr. THARP

3:00-4:30 p. m., Saturday, New Brunswick. Fee \$20.00

Elementary Typewriting e44

The aim is to give the student a mastery of the touch system. In order to obtain the maximum benefit from the course students should avail themselves of the extra hours of practice which are provided.

Credit 1

7:30-9:00 p. m., Tuesday and Thursday, New Brunswick and Plainfield.
Fee \$15.00

Advanced Typewriting e45

This course is planned to give students and teachers an opportunity to increase their speed and to gain experience in various classes of typewritten work.

Credit 1

8:00-9:30 p. m., Tuesday and Thursday, New Brunswick and Plainfield.
Fee \$15.00

Commercial Arithmetic e46

Emphasis is placed on the phases of arithmetic especially applicable to modern business. Many of the topics formerly treated in commercial arithmetic are being dropped. Emphasis is placed on the essential problems of business. Teachers will be aided in the selection of subject-matter and instructed in the most effective methods of presenting the various kinds of problems met in ordinary business transactions.

Credit 1

1:30-3:00 p. m., Saturday, New Brunswick. Fee \$15.00

Commercial Law e47

This course is thorough and comprehensive. It is designed to prepare fully for a teacher's license and to prepare candidates for C.P.A. examinations. It is most valuable also for business men and accountants in need of a thorough course in business law and in the preparation of business and legal forms.

Credit I. Mr. THARP

1:30-3:00 p. m., Saturday, New Brunswick. Fee \$20.00

Office Filing and Clerical Service e50

The course is designed to equip the student with a practical working knowledge of office systems. It includes the different kinds of filing in present-day business and government use. The work dealing with clerical service includes instruction in business papers and their functions. The requirement for filing and clerical service is thirty hours of class instruction for each; these unit courses, when completed, qualify the student for a position as filing clerk and general clerk.

Mr. EVANS

7:30-9:30 p. m., Tuesday and Friday, New Brunswick and Plainfield.
Fee \$15.00

CHEMISTRY**General Chemistry for Teachers e60**

An elementary study of chemistry based upon the theory of electrolytic dissociation. The fundamental laws of the science are carefully studied and their use in the solution of quantitative problems is emphasized. The descriptive part of the course consists of the study of the more common non-metallic elements.

Credit I, III. Professor LITTLE and Mr. MAXWELL

10:30 a. m.-12:30 p. m. and 1:30-3:30 p. m., Saturday, Chemistry Building, New Brunswick. Fee \$25.00

Advanced General Chemistry for Teachers e61

The course includes a continuation of the theoretical studies begun in Course e60. The student should become quite familiar with such fundamental principles as hydrolysis, formation of complexions, amphoteric hydroxides, solubility products, and the modern ionic view of oxidation and reduction. Carbon and some of its most important compounds are studied and the common metallic elements are studied according to the following outline: Occurrence in nature, metallurgy, physical properties, chemical properties, important compounds, and technical uses. Chemistry e60 is prerequisite.

Credit I, III. Professor LITTLE and Mr. MAXWELL

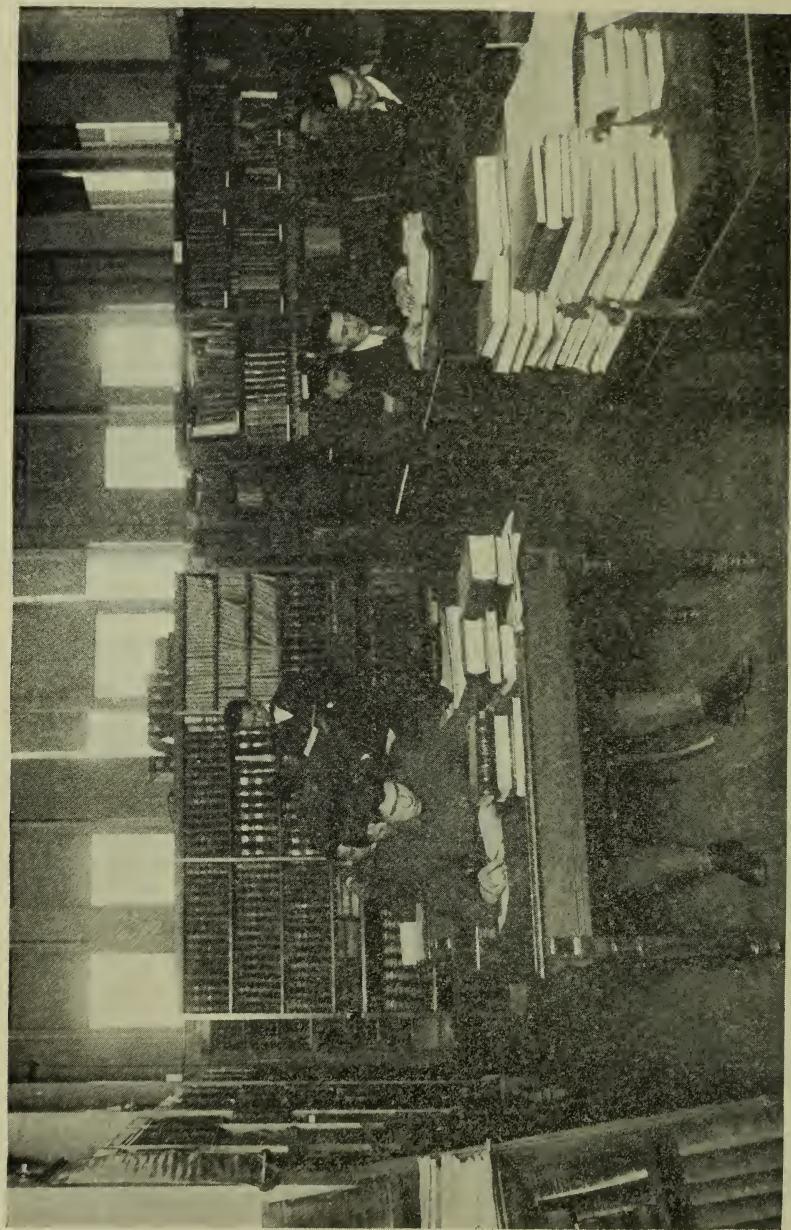
8:30-10:30 a. m. and 1:30-3:30 p. m. Saturday, Chemistry Building, New Brunswick. Fee \$25.00

DRAWING**Advanced Course for Teachers and Supervisors e74**

This course is designed to instruct advanced students in the methods of presentation, the principles of criticism, the technique of different media and the preparing of classroom outlines of work which are suited to the various grades of the elementary school and the junior high school. The course includes a study of the work of the supervisor of drawing. A comprehensive bibliography is supplied. Lectures, discussions, assigned readings and practical work.

Credit I, III.

10:00-11:30 a. m., Saturday. New Brunswick



Interior of Library

EDUCATION**History of Education 80**

The aim of the course is to trace the historical development of theories and practices in education. Among the important topics considered are: The evolution of the school as a social institution; the school and society; the teacher as a product of society and a factor in society; the course of study; the social forces affecting the course of study and school method. The influence of the great war and industrial expansion upon the development of education and educational institutions will be considered.

Credit I, III. Equivalent to 2 hours of Education 35

8:00-9:30 p. m., Wednesday, Room 11, Van Nest Hall, New Brunswick.
Fee \$15.00

History of Education—Course A e81

This course is intended to introduce the student to the subject and to carry him through the renaissance and reformation periods. It will consider the influence of the great philosophers upon educational thought and the manner in which the civilizations of the past have expressed themselves in educational institutions. Textbook, lectures, recitations and required reading.

Credit I, III. Equivalent to 2 hours of History of Education 31. Professor PAYSON

9:00-10:15 a. m., Saturday, Queen's Building, Room 35, New Brunswick.
Fee \$12.00

This section will be offered Tuesday, Wednesday or Thursday, 7:45-9:00 p. m., if there is sufficient demand.

History of Education—Course B e82

This course continues and supplements Course e81. Beginning with a brief treatment of the renaissance it carries the subject to the present time. The great educational classics, the eminent leaders and the social and intellectual forces affecting education will be considered. Textbook, themes, reports and lectures.

Credit I, III. Equivalent to 2 hours of History of Education 32. Professor PAYSON

8:00-9:15 p. m., Monday, Queen's Building, Room 25, New Brunswick.
Fee \$12.00

Methods of Teaching History e199

This is a course in the theory and practice of teaching history in the high school. It includes a study of European and American secondary history programs, methods of teaching and special consideration of various aids to history teaching. Particular attention will be given to those phases of history teaching which seem best adapted to American conditions. Study will be made of courses for the four-year high school, six-year high school, and the junior high school.

Credit I, II, III. Dr. SMITH

Sections will be organized in Montclair, East Orange, Elizabeth, South Orange, and Perth Amboy. Fee \$15.00

Psychology of Learning e33

The course considers the physiological basis of learning, the psychology of habit, practice, memory, fatigue and thinking in their relation to school work. Practical exercises and reports.

Credit I, III. Equivalent to Psychology 33. Professor ELLIOTT

10:00-12:00 a. m., Saturday, second half year, Room 11, Van Nest Hall, New Brunswick. Fee \$20.00

*** The Project Method of Teaching e91**

Through the coöperation of the superintendent and principals this course will undertake to present the project method by means of demonstration lessons taught by local teachers. These lessons will serve as a basis for the discussion of the principles of teaching underlying the project method. The course will seek to perfect projects which are now being used and to develop new projects for specific grades and subjects.

Credit I. Undergraduate or graduate, 30 hours (2 points). First or second half year. Professor Crow and Professor _____

To alternate every other week with either Education e41 or Education e92. Fee \$7.50 for each semester.

*** Methods and Measurements in Education e92**

This course involves a study of the standard tests and scales that have been used in school surveys—how they are derived, how they are used in testing, how papers are scored, and how results are tabulated and interpreted. It is the purpose to plan and carry out a local survey in which special attention will be given to individual differences, class differences and grade differences in the various subjects as they are related to problems of teaching, supervision and administration. For teachers, principals and supervisors.

Credit I. Undergraduate or graduate, 30 hours (2 points). First or second half year or both. Professor Crow

Classes meet through the semester once a week after school for a two-hour period. The course may be continued through the second semester, making it a sixty-hour (4 point) course. Equivalent to Education 41. Fee \$7.50 for each semester.

*** Field Work in Administration and Supervision e41**

This course is planned for those who took the course in Educational Measurements last year though that work is not prerequisite. Standard tests will be used as a guide to better teaching and supervision in certain selected subjects. Specific problems will be studied under controlled conditions. Standards for course of study, for teaching and for supervision will be applied. A survey of school buildings may be undertaken. The relative emphasis to be given to each phase of the course will be planned with the superintendent before the work begins.

Credit I. Undergraduate or graduate, 30 hours (2 points). Professor Crow

The plan is to alternate this course with Education e91, each course meeting on a given day every week after school for a two-hour period through the year. Fee \$7.50 for each semester.

School Organization including New Jersey School Law e83

This course is designed primarily for superintendents and principals. Some of the topics studied are: School attendance and the progress of pupils; retardation and elimination; physical welfare and recreation; the course of study and supervision of teaching; school buildings; financing public education; the organization of the school system; the school and the community; school reports and graphic methods of representing educational facts.

Credit I, II. Equivalent to Education 40.

4:00-6:00 p. m., Friday, New Brunswick. Fee \$18.00.

The Teaching of Modern Languages in the High School e163

This course is intended for teachers of French, Spanish and other modern languages and will deal with the general principles underlying the teaching of

*These courses will be offered at various centers. Appl cation should be made in writing to the Secretary.

modern languages, the organization of such instruction in the secondary schools in the United States, and the methods of instruction in these languages. It will include treatment of the history of the direct method in Europe and the United States, its theory and practice, its special application to various needs and conditions, and its demands upon the teacher. Detailed suggestions will be given as to its application in the treatment of pronunciation, grammar, written work and reading material. The work consists of lectures, discussions and reports upon textbooks and other references.

Credit 1, III. Professor HAUCH

8:30-9:30 p. m., Wednesday, New Brunswick. 8:30-9:30 p. m., Tuesday Jersey City. Fee \$15.00

VOCATIONAL EDUCATION *

Principles of Vocational Teaching—Introductory Course e100

This course is designed for men who have had satisfactory trade experience and who desire to prepare for positions as teachers of vocational subjects or related subjects in state-aided industrial schools.

Among the important topics to be considered are the following: The purpose of vocational education; manual training; the pre-vocational school; trade analysis; job analysis; the classification of trade knowledge; the learning process; types of lessons; the preparation and presentation of lesson plans; classroom and shop records and equipment; the project, the exercise, and the factory method of handling shop work; characteristics of vocational school pupils; discipline; types of vocational schools; the organization of the day vocational school; the organization of evening school work; the qualifications required by the State for teachers of vocational subjects and state procedure in certification. Opportunity will be offered for visits to vocational classes.

Credit as arranged. Director PARSIL

8:00-9:30 p. m. Wednesday, Van Nest Hall, New Brunswick.

Theory and Practice of Vocational Teaching—Advanced Course e101

The course is planned for teachers at present engaged in giving instruction in trade subjects and related subjects in vocational schools. Among the topics which receive intensive treatment are: Advanced instruction in job analysis; advanced work in the preparation and criticism of lesson plans; the teaching of related subjects; the unit and the spiral method of instruction; the relation of the curriculum to local industries; the preparation of a curriculum for various trades; care and selection of equipment; school and shop records; classroom and shop management; state and national legislation for vocational education; the relation of local, state and national governments to each other in the organization and administration of vocational education; vocational education and the continuation school.

Credit as arranged. Director PARSIL

Time to be arranged. Van Nest Hall, New Brunswick.

Methods of Teaching in Industrial Schools e102

This course is planned especially for two groups: (a) Men who have had satisfactory industrial experience and who are at present teaching in industrial schools, (b) men with satisfactory industrial experience who wish to become teachers in these schools. The main purpose of this course is to study specific teaching problems that arise in industrial schools for boys and men and to give instruction in the application of those methods and principles of teaching that have been found useful in industrial school work. The course includes the

* All courses in vocational education are offered under the Federal Law known as the Smith-Hughes Act and are free to residents of the State of New Jersey.



College Hall

following topics: Learning; planning of lessons; lesson types; the adaptation of lessons to shop and classroom teaching in the industrial school; the organization of shop work in accordance with good teaching practice; the project, the exercise and the factory method of handling shop work. The course includes also the study of the content of the various trades and topics in the teaching process and class management. Lectures, readings, discussions and visits to vocational schools.

Credit as arranged. Director PARSIL

8:00-9:30 p. m., Tuesday, Van Nest Hall, New Brunswick.

Agricultural Education e111

This course is designed to meet the needs of teachers in service and others who may desire further knowledge in this field. The work will consist of lectures and round table discussions together with definite assignments of field problems. Emphasis will be placed upon the organization of the agricultural curriculum, methods of teaching high school agriculture, and special phases of teacher improvement. The collection and preservation of laboratory materials, the making of charts and other teaching aids and plans for special work will receive attention.

Credit I, II, III. Professor SAMPSON

10:30 a. m.-12:30 p. m., Saturday, Room 35, Queen's Building, New Brunswick.

ENGLISH

Literature for the Grades—Course B 153

This course is concerned primarily with methods of teaching literature in grades seven and eight and in the junior high school. It will include a discussion of the aims in teaching literature, the determination of criteria for the selection of classics, and class study of literary types. Special emphasis will be laid on the oral interpretation of literature. Opportunity will be given for the free interchange of opinion, and the testing of devices in teaching that have proved their worth in the practice of the classroom. Among the selections which will be studied are the following: Selected poems from Tennyson, Wordsworth, Longfellow and Whittier; Coleridge's *Ancient Mariner*; Homer's *Iliad* and *Odyssey*.

Credit I, III. Equivalent to English 165. Professor WHITMAN

10:00-11:30 a. m., Saturday, New Brunswick; 8:00-9:30 p. m., Wednesday, Newark. Sections will be organized at Montclair, East Orange, Elizabeth, and South Orange. Time to be arranged. Fee \$15.00

English Literature of the Nineteenth Century 154

A literary study of some of the leading writers of the Romantic and Victorian eras including Wordsworth, Coleridge, Shelley, Tennyson, Browning, Carlyle, Ruskin and Arnold.

Credit I, III. Equivalent to 2 of the 3 hours of English 173. Professor WHITMAN

8:00-9:30 p. m., Monday, New Brunswick; 8:00-9:30 p. m., Tuesday, Jersey City. Fee \$15.00

Shakespeare e145

A critical and appreciative study of selected plays, with special attention to sources, annotations, and the development of Shakespeare as a dramatic artist.

Credit I. Equivalent to English 168. Professor WHITMAN

Fee \$15.00

ENGINEERING MATHEMATICS**Applied Mathematics and Mechanics e245**

This course is a course in shop mathematics for men engaged in practical shop work and includes the elements of the fundamental mathematical subjects and mechanics. Thirty meetings of two hours each. College credit as arranged.

Credit I.

7:30-9:30 p. m., Monday, Engineering Building, New Brunswick. Fee \$20.00

Mechanical Drawing and Elementary Graphics e413

This course consists of the study of projections and the graphical determination of forces and movements. Thirty meetings of three hours each.

Credit I. Equivalent to Drafting 413. Professor HECK

2:00-5:00 p. m., Wednesday, M. E. Drafting Room, Engineering Building, New Brunswick. Fee \$20.00

FRENCH**Beginner's French e160**

A course equivalent to the first semester of college French devoted chiefly to the rudiments of pronunciation and grammar, with occasional dictation and constant translation of simple exercises from French into English and vice versa.

Credit I. Equivalent to French 181 and 186.

8:00-9:30 p. m., Tuesday, Queen's Building, New Brunswick. Fee \$15.00.

Second Semester French e161

The latter part of the grammar is taken up in some detail, especially the chapters on verbs. Exercises in composition and dictation with incidental drill in pronunciation. About one-half of the time is given to translation of a graded reader and short stories. Prerequisite: French e160 or its equivalent.

Credit I. Equivalent to French 187 and 192.

8:00-9:30 p. m., Wednesday, Queen's Building, New Brunswick. Fee \$15.00

French Conversation e162

To profit fully by this course the student should possess a fair vocabulary with such knowledge of the grammar essentials as can be acquired in French e160 and French e161. The chief object of the instruction is to train the ear in understanding and the tongue in speaking the language. The work is conducted almost exclusively in French and consists of continual dialogue between teacher and pupils on everyday subjects together with exercises in dictation and in composition. The course aims to give little theory and explanation but as much practice as possible in the use of French.

Credit I. Equivalent to one semester of college French.

8:00-9:30 p. m., Tuesday, Queen's Building, New Brunswick. Fee \$15.00

HISTORY**Modern European History from 1700—Course A e192**

This course begins at 1700 and traces the chief movements in the development of the nations of Western Europe to the end of the revolutionary era. The work is planned to cover a portion of the field outlined for History 61-62. It covers also the topics in Modern European History required by the State Board of Examiners.

Credit III. Also Credit I as arranged. Professor LOGAN

8:00-9:30 p. m., Thursday, New Brunswick; also 10:00-11:30 a. m., Saturday, New Brunswick. Sections will be organized in other centers. Fee \$15.00

Modern European History from 1700—Course B e193

This course continues the work outlined in the preceding course from 1815 to the present date.

Credit III. Also Credit I as arranged. Professor LOGAN

8:00-9:30 p. m., Wednesday, New Brunswick. Other sections will be organized in various centers. Time to be arranged. Fee \$15.00

Advanced United States History—Course B e197

This is a fundamental course in American History which gives special attention to the social and economic development of the United States.

Credit I, III. Equivalent to History 61. Professor KULL

8:00-9:30 p. m., Monday, New Brunswick; 10:00-11:30 a. m., Saturday, New Brunswick. Sections will be arranged for other centers as desired. Fee \$15.00

Advanced American History e198

This course considers intensively one of the following fields: (a) The American Revolution; (b) United States History 1829-1860; (c) United States History 1865-1919.

Credit I, II. Equivalent to History 70, 71 or 72. Professor KULL

Time and centers to be arranged. Fee \$15.00

HOME ECONOMICS**Courses in Cookery and Textiles and Clothing**

A large number of college courses in Cookery and Textiles and Clothing may be elected as Extension Courses by properly qualified candidates. Detailed information will be sent to those planning to enroll in such courses.

SCIENCE**Elementary or General Science****Elementary or General Science—Course I e330**

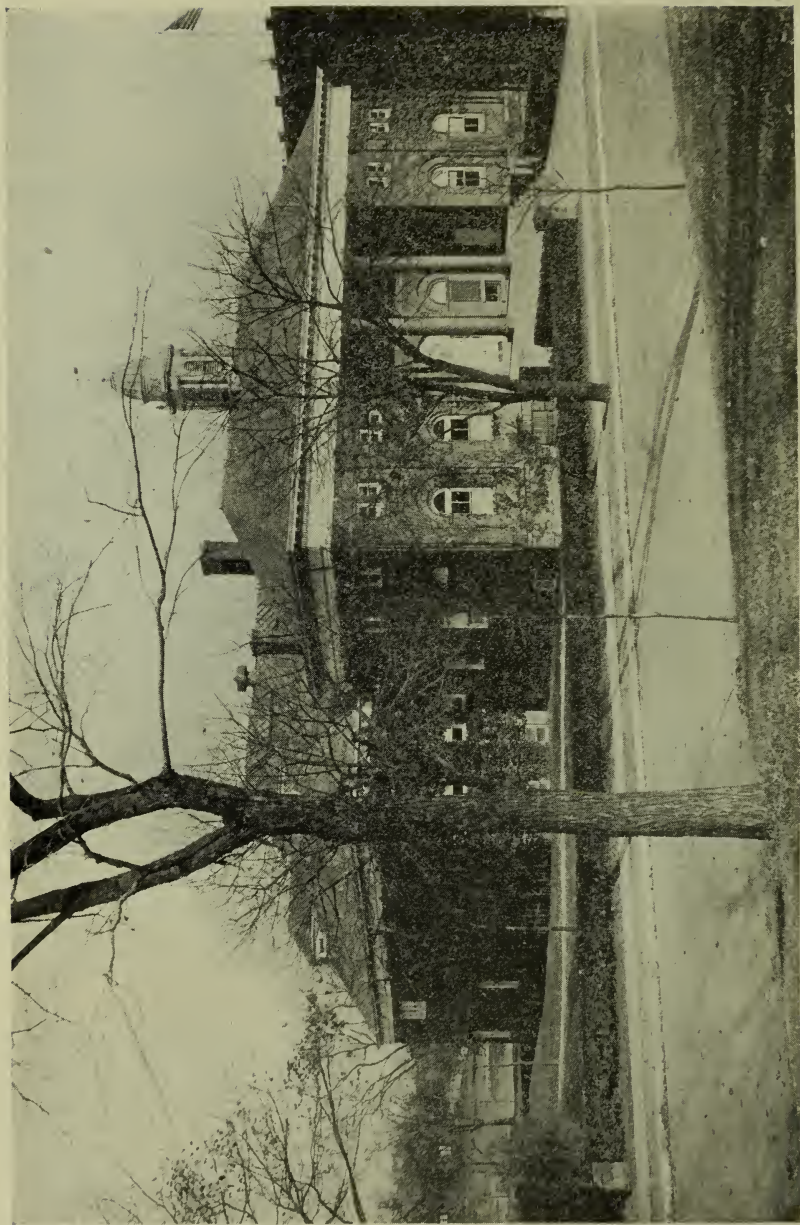
This course is planned to consider the principal topics that will be of value in studying science and its applications in the ordinary community. So far as possible the project method of instruction is used. The work is conducted by means of classroom demonstrations, laboratory work, and trips to industries. Students are required to keep a notebook. A portion of the course is given to a discussion of methods of presenting the various topics to children. The topics considered in the course are heat, foods, water, air, gases, light, and machines.

Credit I. Professor PRATT

10:00 a.m.-12:00 p.m., Saturday, Geological Hall, New Brunswick. Fee \$20.00

SPANISH**Beginner's Spanish—Course I e350**

The course is equivalent to the first semester course in college Spanish and is designed for students who have had no training in the subject. Under the revised rules of the State Board of Examiners, Spanish may now be offered as one of the elective language requirements for the Permanent Elementary Certificate. The course includes a careful study of pronunciation with constant drill exercises; thorough grounding in the essentials of grammar including the verb system; copious translation of graded sentences from English into Spanish. Much opportunity will be offered for conversational practice and the course includes also the reading of a few easy stories and anecdotes. The aim of the instruction is to give a foundation for further study. The course will be presented in such a way that



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students may utilize it as a sample of the modern method of giving instruction in the subject.

Credit I. Equivalent to Spanish 205.

8:00-9:30 p. m., Wednesday, Queen's Building, Room 17, New Brunswick.
Fee \$15.00

Beginner's Spanish—Course 2 e351

The course includes a review of the elements of grammar and syntax through the medium of reading and composition work. The aim of the course is to impart a correct pronunciation and to give the student an accurate reading knowledge of elementary Spanish. Ample practice in the use of the language is afforded through conversational drill. The course is equivalent to a second semester of college Spanish and completes the requirement in Spanish for the Permanent Elementary Certificate.

Credit I. Equivalent to Spanish 206

11:30 a. m.-1:00 p. m., Saturday, Queen's Building, New Brunswick. Fee \$15.00

Commercial Spanish e352

This course deals almost wholly with commercial correspondence. Detailed consideration is given to the principal phases of typical correspondence that finds its way into the everyday routine of an American export house. Drafts, exchange and commercial documents are studied. All of the work is supplemented by a large amount of dictation, conversation and original composition work. The course may be taken with profit by teachers and business workers; it may be taken by college students who desire credit in intermediate Spanish.

Credit I. Equivalent to one semester of Spanish. Mr. LURIA

11:30 a. m.-1:00 p. m., Saturday, Queen's Building, New Brunswick. Fee \$15.00

ZOOLOGY

General Zoology e370

An elementary course including the study of the anatomy of selected types of animals with special emphasis on their economic importance. Methods of caring for aquaria and vivaria and of collecting material for class use will be discussed in connection with the study of the specimens.

Credit I, III. Equivalent to General Zoology 581. Dr. NELSON

10:00 a. m.-12:00 p. m., Saturday, New Jersey Hall, New Brunswick.
Fee \$20.00

Comparative Zoology e371

The course includes a critical examination of various theories of the origin of vertebrates; comparative anatomy of fishes, amphibians, and reptiles. Lectures on vertebrate paleontology will constitute a portion of the course.

Credit I, III. Equivalent to Zoology 582 or 584. Dr. NELSON

10:00 a. m.-12:00 p. m., Saturday, New Jersey Hall, New Brunswick.
Fee \$20.00

SUMMER SESSION COURSES IN EDUCATION

Summer Session

1920

THEORY AND PRACTICE OF EDUCATION

Education 80—History of Education

For students preparing for State Certificates. Professor PAYSON

Education 81—History of Education: Course A

Equivalent to two of the three hours of History of Education 31. Professor PAYSON

Education 82—History of Education: Course B

Equivalent to two of the three hours of Education 32. Professor PAYSON

Education 83—School Organization including New Jersey School Law

Credit for the Supervisor's Certificate. Superintendent WILLIS

Education 89—School Management and Methods of Teaching with Special Reference to Secondary Education

Equivalent to two of the three hours of Education 34. Professor CROW

Education 90—Methods of Teaching the Elementary School Subjects

Equivalent to two hours in Education. Superintendent SPRAGUE and assistants

Education 91—Methods of Teaching the Elementary School Subjects—Advanced Course

Equivalent to two hours in Education. Superintendent SPRAGUE and assistants

Education 92—Experimental Education for Elementary Teachers

Equivalent to two hours in Education. Professor CROW, Superintendent SPRAGUE and assistant

Education 96—Methods of Teaching Accounting and Business Practice

Open to candidates for commercial teaching certificates. Mr. EVANS

Education 40G—Educational Administration

Open to qualified seniors and graduate students. Equivalent to Education 40. Professors ELLIOTT and CROW

Education 92G—Educational Measurements

Open to graduate students and those who obtain the consent of the instructor. Professor CROW

Education 89G—Secondary Education

Open to graduate students. Half course.

VOCATIONAL EDUCATION

Education 111G—The Curriculum of the Agricultural High School

Open to graduate students and those who obtain the consent of the instructor.
Full course. Professor SAMPSON

Education 100—Principles of Vocational Teaching

Introductory course. Director PARSIL

Education 101—Theory and Practice of Vocational Teaching

Advanced course. Director PARSIL

Education 110—Agriculture in the High School

Equivalent to the first semester of the professional requirement in the senior year for persons preparing to be vocational teachers of agriculture. Professor SAMPSON

Education 111—Methods of Teaching Agriculture

Equivalent to the second half year of the professional requirement in the senior year for persons preparing to be vocational teachers of agriculture. Professor SAMPSON

PSYCHOLOGY

Psychology 85—Elementary Educational Psychology

First half of the requirement for New Jersey State Certificates. Professor MARVIN

Psychology 86—Elementary Psychology

Equivalent to Psychology 17. Professor MARVIN

Psychology 87—Advanced Educational Psychology

Equivalent to two hours of Psychology 33. Professor MARVIN

Psychology 87G—Educational Psychology—Graduate Course

Open only to graduate students.

Psychology 130—Child Psychology

First half of requirement for Special Certificates. Dr. MAXFIELD

Psychology 131—Psychological Clinic

Open to students preparing to be teachers and supervisors of classes enrolling subnormal children. Equivalent to two hours of Psychology 19-20. Dr. MAXFIELD

NOTE.—For additional courses in the theory and practice of teaching the various elementary and secondary school subjects and for fuller statement of courses in vocational education, see the complete announcement of the 1920 Summer Session.



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